

**Safety data sheet**  
According to 1907/2006/EC, (REACH)

Revision Date 06.03.2015

<b>Trade name: Aquarius Fluxlubrication</b>
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**SECTION 1:****Identification of the substance/mixture and of the company/ undertaking****1.1 Product identifier**

- Trade name: Aquarius Fluxlubrication
- Type of product: Mixture

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

- **Identified uses:** Brazing and soldering agent.  
For industrial purposes only

**- 1.3 Details of the supplier of the safety data sheet****- Manufacturer/Supplier:**

AQUARIUS Löt- und Schweißgeräte GmbH  
Ruhrstr. 119  
D-42579 Heiligenhaus

aquarius-lsg@t-online.de  
Tel.: (+49)02054/18080  
Fax: (+49)020547768

**- 1.4 Emergency telephone number:**

+49 (0)2054-18080 (This number is serviced during office hours only)

**SECTION 2: Hazards identification****- 2.1 Classification of the substance or mixture**

- Classification according to Regulation (EC) No 1272/2008

<b>Hazard class</b>	<b>Hazard category</b>	<b>Abbreviation</b>	<b>H Phrases</b>
Flammable liquid	Category 2	Flam. Liq. 3	H225
Acute toxicity	Category 3	Acute Tox. 3	H301
Acute toxicity	Category 3	Acute Tox. 3	H311
Acute toxicity	Category 3	Acute Tox. 3	H331
Specific target organ toxicity- single exposure	Category 1	STOT SE 1	H370
Serious eye damage / eye irritation	Category 2	Eye irrit. 2	H319
Reproductive toxicity	Category 1B	Repr. 1B	H360

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Classification according to Directive 67/548/EEC or Directive 1999/45/EC:

<b>Hazard class / hazard category</b>	<b>R Phrases</b>
Toxic T	R23/24/25
Toxic T	R39/23/24/25
Reproductive toxicity T	R60-61
Irritant Xi	R36
Flammable F	R11

Remarks: Full text of R-phrases and hazard statements see section 16.

**The most important adverse physicochemical, human health and environment effects are:**

Highly flammable;  
In combination with air vapours may form explosive mixtures;  
Vapours have a higher density than air, accumulation of vapours on the floor is possible  
Toxic if swallowed, if inhaled and in contact with skin, danger of irreversible damage to health;

**2.2 Label elements**

- Labelling according to Regulation (EC) No 1272/2008

- Pictograms and signal word of the product:



GHS02



GHS08



GHS06

**Signal word :        Danger**

**Hazardous components for labelling:**

Contains: Trimethylborate, Methanol

**Hazard statements:**

H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H319	Causes serious eye irritation.
H360	May damage fertility or the unborn child.
H370	Causes damage to organs.

**Precautionary statements:**

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.

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P281 Use personal protective equipment as required.  
 P303+P361 If on skin or hair: Remove/take off immediately all contaminated  
 +P353 clothing. Rinse skin with water/shower.  
 P304+P340 If inhaled: Remove to fresh air and keep at rest in a position  
 comfortable for breathing.  
 P309+P311 If exposed or if you fell unwell: Call a poison centre or doctor.  
 P405 Store locked up.

**Labelling according to Directive 67/548/EEC or 1999/45/EC:**



T; Toxic



F; Highly flammable

**R-Phrases**

R11 Highly flammable  
 R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.  
 R 39/23/24/25 Toxic: Danger of very serious irreversible effects through  
 inhalation, in contact with skin and if swallowed  
 R36 Irritating to eyes.  
 R60 May impair fertility.  
 R61 May cause harm to the unborn child.

**S-Phrases**

S9 Keep container in a well ventilated place.  
 S16 Keep away from sources of ignition.  
 S33 Take precautionary measures against static discharges.  
 S35 This material and its containers must be disposed in a safe way.  
 S36/37 Wear suitable protective clothing and gloves.  
 S45 In case of accident or if you fell unwell seek medical advice immediately  
 (show this label if possible).

**2.3 Other hazards**

Formation of hazardous decomposition products (see section 10)

**SECTION 3: Composition/information on ingredients**

**3.1 Substances**

This product is a mixture.

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**3.2 Mixtures**

Substance Name	Cas-No. EG-No. Reach Registration No.	Classification according to Directive 1999/45/EC	Classification according to Regulation (EC) No 1272/2008	Concentration (%)
Methanol	67-56-1 200-659-6 01-2119433307-44	F, R11 T, R23/24/25 T, R39/23/24/25	Flam. Liq.2 H225 Acute Tox.3 H301 Acute Tox.3 H311 Acute Tox.3 H331 STOT SE 1 H370	96
Trimethylborate	121-43-7 204-468-9 01-2119980577-21	Xn, R21 R10 Xi, R36 T, R39/25 Repr. Cat.2, R60/61	Flam.Liq.3 H226 Acute Tox.4 H312 Eye irrit.2 H319 Repr.1 B H360 STOT SE 1 H370	4

**SECTION 4: First aid measures****- 4.1 Description of first aid measures****- After inhalation:**

Move the person to fresh air. If breathing is difficult, give oxygen. Give artificial respiration if breathing has stopped. Immediately obtain medical advice.

**- After skin contact:**

Immediately wear off shoes, socks and contaminated clothing. Wash affected skin with water and soap. Consult a physician.

**- After eye contact:**

Immediately flush eyes with running water for 15 minutes, while keeping the eyelids wide open. Immediately obtain medical service.

**- After swallowing**

Immediately obtain medical advice.

If person is fully conscious: Let the person drink plenty of fresh water (1 - 2 glasses or more). If vomiting occurs spontaneously keep airway clean.

If person is unconscious: Never give anything by mouth to an unconscious person. Keep the person in recovery position. If vomiting occurs spontaneously keep airway clean.

**- 4.2 Most important symptoms and effects, both acute and delayed**

After inhalation potential symptoms may be: irritation of nose, throat and lung-vertigo-headache-nausea- vomiting- anaesthetic effect-anaesthesia.

After skin contact potential symptoms may be: moderate irritation; in case of repeated or prolonged contact: degreasing and drying of the skin; potential irritation and dermatitis; serious poisoning.

After eye contact potential symptoms may be: moderate or serious irritation, in case of repeated contact at high concentrations: corneal clouding- burning eyes- redness-blindness.

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After ingestion potential symptoms may be: serious irritation of mouth, throat and intestinal tract-vertigo-headache-lack of coordination-blindness-serious poisoning-potential loss of life.

**- 4.3 Indication of any immediate medical attention and special treatment needed**

If vomiting occurs within 2 hours of methanol ingestion, gut decontamination is indicated. Antidote is ethanol which enhances elimination of metabolic formic acid.

**SECTION 5: Firefighting measures****- 5.1 Extinguishing media**

Suitable extinguishing media: Alcohol resistant foam, Carbon dioxide (CO<sub>2</sub>), extinguishing powder.

Unsuitable extinguishing media: Water jet.

**- 5.2 Special hazards arising from the substance or mixture**

In the event of a fire dangerous gases/vapours may form (see section 10).

**- 5.3 Advice for firefighters**

Vapours have a higher density than air, vapours may travel to a source of ignition and flash back. In combination with air heated product may form flammable and explosive vapours. In the event of fire wear self contained breathing apparatus. Use personal protective equipment. Cool containers/ tanks with water spray. DO NOT permit water to enter containers. Do not let the water get into the drains or waterbodies (see section 6).

**SECTION 6: Accidental release measures****- 6.1 Personal precautions, protective equipment and emergency procedures**

Avoid direct contact with the product (personal protective equipment see section 8)

Remove leakages immediately.

Remove sources of ignition, ensure sufficient ventilation.

Caution: Floor may be slippery.

**- 6.2 Environmental precautions:**

Do not allow material to get into surface water or sanitary sewer systems.

Inform the appropriate authorities if considerable quantities of the product are released.

**- 6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material. Suitable materials: universal binders, diatomite, sawdust and sand.

Take up mechanically. Collect in a closed labelled container compatible with the product.

**- 6.4 Reference to other sections**

Concerning disposal see section 13.

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**SECTION 7: Handling and storage****- 7.1 Precautions for safe handling**

Use in well ventilated areas only. Ground all containers when transferring material.  
Use non sparking tools. Personal protective equipment see section 8.  
Do not handle material near food, feed or drinking water.  
Follow general hygienic measures (wash your hands after use, during use do not eat, drink or smoke, take contaminated clothing off during breaks).

**- 7.2 Conditions for safe storage, including any incompatibilities****Storage conditions:**

Store in tightly closed original packaging. Store in a dry, cool and ventilated place.  
Keep away from direct sunlight.  
Store away from sources of excessive heat , ignition sources and reactive materials.

**Specific designs for storage rooms and vessels:**

Provide for retaining containers, eg. floor pan without outflow.  
Floors: Solvent-resistant

**Storage class:**

LGK 3 according to TRGS 510 (Germany 2013)

**- 7.3 Specific end use(s)**

For further information, please contact the supplier.

**SECTION 8: Exposure controls/personal protection****- 8.1 Control parameters**

<b>Substance</b>	<b>Cas No.</b>	<b>Type</b>	<b>Value</b>
Methanol	67-56-1	Rohm & Haas (skin)	TWA = 200 ppm
		Rohm & Haas (skin)	STEL = 250 ppm
		TRGS 900(D,2013) (skin)	AGW 0 270mg/cbm/200 ppm
		ACGIH (USA) (skin)	TWA = 200ppm
		ACGIH (USA) (skin)	STEL = 250 ppm
		RL2006/15/EG (EC) (skin)	TWA = 260 mg/cbm/200 ppm

Other information on limit values:

Boric acid (see section 10), CAS -No. 10043-35-3, TREGS 900 (Germany 2013) (D):  
AGW = 0,5 mg/cbm (referring to the element content).

**- 8.2 Exposure controls**

Provide appropriate exhaust ventilation at the workplace.  
Apply technical measures to comply with the occupational exposure limits.

**- Personal protective equipment****Eye protection:**

Use chemical splash goggles and face shield (according to Din or equivalent).  
Eye protection worn must be compatible with respiratory protection system employed  
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**Skin protection:**

Wear chemical resistant apron or other protective clothing to avoid prolonged or repeated skin contact.

**Hand protection:**

In general use chemical resistant gloves when handling the material. For this material glove permeation data are not available. Recommended for splash protection only: Neoprene, Viton, Synthetic Rubber, Nitrile Rubber. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water.

**Other protective measures:**

Use eye wash bottles or eye wash stations in compliance with applicable standards. Do not smoke, eat or drink in the working area. Wash hands before break and after work. Follow the usual precautionary measures for handling chemical substances.

**Respiratory protection:**

For short time and low level exposure ( up to 1000 ppm organic vapour) wear full-facepiece, airpurifying respirator, or full facepiece, airline respirator in the pressure demand mode.

For longer or intensive exposure (more than 1000 ppm organic vapour) use self - contained breathing apparatus in the pressure demand mode, or full face-facepiece, airline respirator in the pressure demand mode with emergency escape provision.

Only use respiratory equipment according to national/international standards.

Use cartridge respirator for organic vapours type N95, in case of oil mist R95 or P95 (according to NIOSH, DIN or equivalent standards).

**Thermal hazards:** Not applicable.

**Environment exposure controls:**

Follow local, state and national regulations for aqueous emissions (see section 15).

**SECTION 9: Physical and chemical properties****- 9.1 Information on basic physical and chemical properties**

Physical state:	liquid, clear
Colour:	colourless.
Odour:	alcohol odour
pH:	not applicable
Density:	approx. 0.9 g/ccm
Flash point:	11 °C
Ignition temperature:	455 °C (Methanol)
Boiling point/range :	64,7 °C
Vapour density:	> 1,0
Explosion limits:	lower limit: 5,5 % (Methanol) upper limit: 44 % (Methanol)
Solubility:	Water: The product reacts with water and with humidity to form Boric Acid (soluble in water) and Methanol (miscible with water in every measure).
Partition coefficient:	Not determined.

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**Section 10: Stability and reactivity****10.1 Reactivity:**

No Data available

**10.2 Chemical stability:**

Stable under recommended storage conditions.

**10.3 Possibility of hazards reactions:**

Highly flammable if exposed to sources of ignition. Decomposition in contact with water or humidity (see below); reaction is not vigorous.

**10.4 Conditions to avoid:**

Heat, flames, sparks.

**10.5 Incompatible materials:**

Water, acids, oxidizing agents.

Synthetic polymers and natural rubber may be affected.

**10.6 Hazardous decomposition products:**With water Boric acid is formed. Combustion may generate Boric acid, carbon dioxide (CO<sub>2</sub>) and Carbon monoxide (CO).**Section 11: Toxicological information**

No toxicological data available for this mixture.

**11.1 Information on toxicological effects****Acute toxicity:**

Substance	Cas No	Acute toxicity	Method	Effect dose
Methanol	67-56-1	oral	LD50, rat	>5000 mg/kg
		dermal	LD50, rabbit	15800 mg/kg
		inhalation	LC50, 4h, rat	3 mg/kg
Trimethyl borate	121-43-7	oral	LD50, rat	>2000 mg/kg
		dermal	LD50, rabbit	1820 mg/kg

**Corrosivity:**

Short exposure may cause slight skin irritation with local erythema of the skin (Trimethyl borate).

Prolonged contact may cause slight skin irritation with local erythema of tee skin (Methanol)

**Serious eye damage/ irritation:**

May cause moderate eye irritation and slight injury of cornea (Trimethyl borate).

May cause serious eye irritation and serious injury of cornea (Methanol).

**Sensitisation:**

Trimethyl borate: No skin sensitisation reaction (guinea pig).

Methanol: No data available.

**Repeated dose toxicity:**

Product of hydrolysis: Boric acid: animal experiments showed effects on testes and blood.

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Methanol: for humans Methanol is very toxic and may have impact on central nervous system. It may cause vision disorders up to blindness, metabolic acidosis and degenerative injury of other organs including liver, kidneys and heart.

**Carcinogenicity:**

Product of hydrolysis: Boric acid: Animal experiments gave no indication of carcinogenicity

Methanol: Animal experiments gave no indication of carcinogenicity.

**Mutagenicity:**

No data available (Trimethyl borate).

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative in some cases and positive in other cases (Methanol).

**Toxicity for reproduction:**

Product of hydrolysis: Boric acid: In animal studies has been shown to interfere with fertility. In animal studies did not interfere with reproduction (Methanol).

**Section 12: Ecological information**

No toxicological data available for this mixture.

**- 12.1 Toxicity**

Substance	CAS no	Species	Method	Effect dose
Methanol	67-56-1	Fish, <i>Lepomis macrochirus</i>	LC50	19000 mg/l
		Crustaceans, <i>Daphnia magna</i>	EC50, 24h	>10000 mg/kg
		Bacteria	IC50, activated sludge, 3 h	>1000mg/l
Product of hydrolysis Boric acid	10043-35-3	Fish	LC50/EC50/IC50 LL50/EL50	100 mg/l<

**12.2 Persistence and degradability:**

Abiotic degradation: No data available.

Biodegradation: Material is readily biodegradable. Passed OECD tests for ready biodegradability (Methanol).

Product of hydrolysis: Boric acid: no biodegradation.

**12.3 Bioaccumulative potential:**

Fish, measured bioconcentration factor (BCF): <10 (Methanol).

**12.4 Mobility in soil:**

Partition coefficient: n-octanol/water:

Methanol: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Product of hydrolysis: Boric acid: partitioning from water to n-Octanol is not applicable.

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**12.5 Results of PBT and vPvB assessment**

Products of hydrolysis: Methanol, Boric acid: These substances are not considered to be persistent, bioaccumulating and toxic (PBT).

Products of hydrolysis : Methanol, Boric acid: These substances are not considered to be very persistent and very bioaccumulating (VPvB).

**12.6 Other adverse effects:**

No data available.

**Section 13: Disposal considerations****13.1 Waste treatment methods**

Dispose of in compliance with local regulations. Incinerate in a suitable incineration plant holding a permit delivered by the competent authorities.

**Recommendation:** For the appropriate waste code number contact the waste management company. The actual waste code number is depending on the end use of the material.

**Contaminated packaging:** If recycling is not practical, dispose of in compliance with local regulations.

**Section 14: Transport information**

	Road transp.	Railway transp.	Maritime transp.	Air transp.
<b>14.1 UN-Number:</b>	1992	1992	1992	1992
<b>14.2 Proper shipping name:</b>	FLAMMABLE LIQUID, TOXIC, N.O.S. (contains Trimethyl borate and Methanol)			
<b>14.3 Class:</b>	3 (6.1)	3 (6.1)	3 (6.1)	3 (6.1)
<b>14.4 Packing group:</b>	II	II	II	II
<b>14.5 Environment hazards:</b>	none	none	none	none
<b>14.6 Special precautions for user:</b>	Hazard Identification Number 336		EmS: F-E, S-D	not applicable

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Water hazard class:** Water hazard class 1 -weakly water endangering

**15.2 Chemical safety assessment:**

The mixture was not subjected to a chemical safety assessment.

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**SECTION 16: Other information****EC Regulations:**

Directive 1999/45EC (Mixture Directive)  
 Directive 67/548/EEC (Substance Directive)  
 Regulation (EC) Nr. 1907/2006 (REACH Regulation)  
 Regulation (EC) Nr. 1272/2008 (CLP Regulation)

**Hazard statements mentioned in section 2 and 3:**

According to Regulation (EC) No 1272/2008

H225	Highly flammable liquid and vapour
H226	Flammable liquid and vapour
H301	Toxic if swallowed
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H319	Causes serious eye irritation
H331	Toxic if inhaled
H360	May damage fertility or the unborn child
H370	Causes damage to organs

**According to Directive 67/548/EEC:**

R10	Flammable
R11	Highly flammable
R21	Harmful in contact with skin
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed
R36	Irritating to eyes
R39/25	Toxic: Danger of very serious irreversible effects if swallowed
R60	May impair fertility
R61	May cause harm to the unborn child

These details given correspond to the current state of our knowledge and experience of the product, and are not exhaustive. They should describe our product regarding safety requirements and shall not constitute a guarantee for any specific product features. A different using of the product may cause a risk. In the case of combinations and mixtures one must take sure that no new danger can arise. In any case the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.